

Continuing Medical Education Course Handout





FY18 Epi-Tech Surveillance Training

Sunday, October 01, 2017 - Sunday, September 30, 2018 DCS, APG, MD

Provided By U.S. Army Medical Command

Activity ID	Course Director	CME Planner
2017-1636	John Ambrose	Mimi C. Eng

Accreditation Statement

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of U.S. Army Medical Command and ARMY PUBLIC HEALTH CENTER. The U.S. Army Medical Command is accredited by the ACCME to provide continuing medical education for physicians.

Credit Designation

The U.S. Army Medical Command designates this Live Activity for a maximum of 5 AMA PRA Category 1 Credit $(s)^{TM}$. Physicians should claim only the credit commensurate with the extent of their participation in the activity.



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Statement of Need/Gap Analysis

The purpose of this CME activity is to address the identified gap(s):

- Surveillance techniques Surveillance of common communicable diseases continues to be a problem among local MTFs. In fact, cases of campylobacter were not investigated in 2015 for PACOM MTFS, while 2016 cases of salmonella were not investigated. Civilian public health agencies are required to conduct investigations into all reportable medical events. However, DoD facilities often do not take initiative to conduct this investigation.
- 2. Disease identification verification of disease by established case definitions have been utilized by the local health departments, Centers for Disease Control and Prevention, World Health Organization, and the Department of Defense. With the every changing list of reportable medical events and new emerging infections, case definitions change rapidly. Army epidemiologist conduct verification studies that monitor the efficiency of reporting by local public health experts and have concluded that completeness percentages for reportable medical events range as low as 35% for select diseases.
- Outbreak reporting Recent evidence have demonstrated that outbreak reporting and communication between public health agencies is poor. In fact, the Army failed to report six outbreaks in the DRSi between June 2016 and September 2016.

Learning Objectives

 Based on case presentation, enhance your ability to improve case finding and surveillance practices within your local MTF.

Target Audience / Scope of Practice

Target Audience: The intended audience for this educational activity includes preventive medicine physicians,

community health nurses, public health nurses, and epidemiology technicians.

Scope of Practice: This activity will improve the performance of preventive medicine personnel who conduct

surveillance activities in inpatient and outpatient settings.



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Disclosure of Faculty/Committee Member Relationships

It is the policy of the U.S. Army Medical Command that all CME planning committee/faculty/authors disclose relationships with commercial entities upon invitation of participation. Disclosure documents are reviewed for potential conflicts of interest and, if identified, they are resolved prior to confirmation of participation.

Faculty Members

Brown, Alfonza - No information to disclose.
Gibson, Kelly - No information to disclose.
Holbrook, Victoria - No information to disclose.
Kebisek, Julianna - No information to disclose.
Reynolds, Mark - No information to disclose.
Reynolds, Mark - No information to disclose.
Riegodedios, Asha - No information to disclose.

Russell, Jamaal Employment/Salary: Abbvie (spouse)

Walters, Cedric - No information to disclose.

Committee Members

Ambrose, John - No information to disclose.

Eng, Mimi - No information to disclose.

Gibson, Kelly - No information to disclose.

Riegodedios, Asha - No information to disclose.

Acknowledgement of Commercial Support

There is no commercial support associated with this educational activity.



ANNOUNCEMENTS



- To Register for the Monthly Disease Surveillance Trainings:
 - Contact your Service Surveillance HUB to receive monthly updates and reminders
 - Log-on or Request log-on ID/password: https://tiny.army.mil/r/zB8A/CME
 - 3. Register at: https://tiny.army.mil/r/MEHsS/EpiTechFY18
- Confirm attendance:
 - Please enter your full name/email into the DCS chat box to the right or email your Service hub
 - You will receive a confirmation email within 48 hours with your attendance record; if you do not receive this email, please contact your Service hub

Case Finding for Reportable Medical Events



U.S. ARMY PUBLIC HEALTH CENTER

Alfonza Brown, MPH Epidemiologist APHC



Objectives



- Identify methods and resources to find potential reportable events in DRSi to improve reporting accuracy
- Recognize when and how to implement these practices/methods to increase reporting efficiency
- Describe strengths and limitations to case finding methods, to increase awareness of functional capability



What is Case Finding?



- Case finding The strategy of surveying a population to find the sick persons that are the foci of infection; an essential early step in the eradication of any disease
- Case finding is doing active surveillance; however, it can also be used in the context of improving passive surveillance systems
- When performing case finding, it is important to cast a wide net because there are more cases that have yet to be identified
- The goal is to determine the true size and geographic extent of the problem



Importance of Case Finding



- Usually more cases than are being reported; the limitation to passive surveillance systems (e.g. DRSi) are that diseases are often underreported
- Identifies exposure risk—assists investigator in acquiring information from an appropriate representative sample
- Refines the case definition as more information is gathered
- Fully defines the exposed population for purposes of developing control measures
- Reported cases may not be representative of all cases (<u>Example</u>)

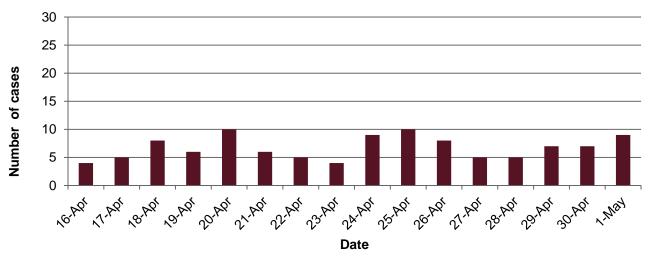


Importance of Case Finding - Example

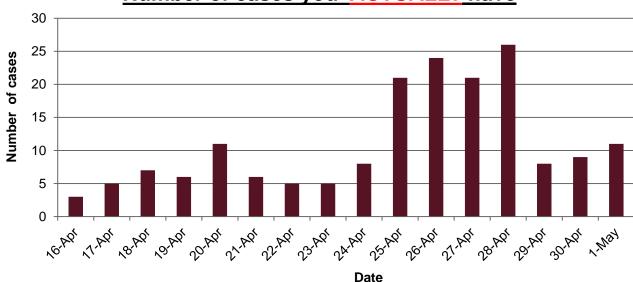




Number of cases you think you have



Number of cases you **ACTUALLY** have





Importance of Case Finding



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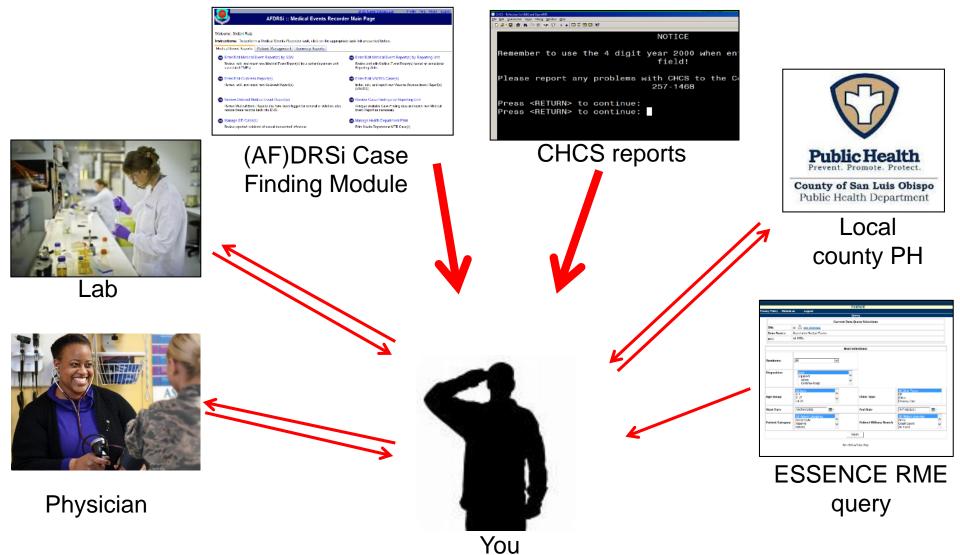
- Limitations of reporting
 - Many providers, high turnover, constant need for education
 - Providers may not be aware that condition is reportable
 - Army MTFs can request a copy of RME posters by contacting APHC
 - Navy MTFs can request posters/brochures from their NEPMUs
 - AF MTFs can download a list of RMEs from USAFSAM/PHR webpage at https://gumbo2.area52.afnoapps.usaf.mil/epi-consult/reportableevents/ under General Information
- A significant amount of cases can be missed if additional activities are NOT employed
 - No awareness = no follow-up, no contact tracing, no control measures
 put into place



How you become aware of RMEs







Base level PH



Surveillance types



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Active surveillance

 Regularly contacting health care providers to seek information about health conditions, reviewing encounter records for ICD-10 codes, reviewing sick call logs for chief complaints, using CHCS ad hoc reports of lab results, asking cases if they know of anyone else who is sick, etc.

Passive surveillance

 A system by which a health jurisdiction receives reports submitted from hospitals, clinics, public health units or other sources



Case Definition



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- A surveillance case definition is a set of uniform criteria used to define a disease for public health surveillance. Surveillance case definitions enable public health officials to classify and count cases consistently across reporting jurisdictions.
- Surveillance case definitions are **not** intended to be used by healthcare providers for making a clinical diagnosis or determining how to meet an individual patient's health needs.





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Specificity of case definition and accuracy of diagnosis increases

Suspected classification

- Early identification of the disease is critical for disease control
- Case definition
 usually limited to
 clinical symptoms
 without laboratory
 results (but not
 always)

Probable Classification

- Case definition is usually more detailed than suspected classification
- Does not have all of the required elements for a confirmed case

Confirmed Classification

- Case definition is the most specific
- Usually requires laboratory support

Specificity measures the proportion of actual negatives that are correctly identified as such (e.g. the % of healthy people who are correctly identified as not having the condition

Sensitivity measures the proportion of actual positives that are correctly identified as such



Case Definition





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- How is a case definition developed?
 - An RME case definition represents the specific clinical, laboratory, and other criteria that must be met for a disease or condition to be reportable
 - This is the surveillance case definition which is different from the development of an outbreak case definition

Brucellosis (Brucella species)

Background

Causative Agent Brucella species

Travel Risks Present worldwide

Clinical Description An acute systemic disease characterized by fever plus any of the following: night

sweats, arthralgia, headache, fatigue, anorexia, myalgia, weight loss, arthritis, spondylitis, meningitis, or focal organ involvement (endocarditis, orchitis, epididymitis, hepatomegaly, splenomegaly).

Case Classification

Probable:

A case that meets the clinical description as described above with any of the following:

- · Epidemiologically linked to a confirmed human or animal case or
- Brucella total antibody titer ≥ 1:160 by SAT or MAT from serum or
- Brucella nucleic acid (DNA) detected by PCR from any clinical specimen

Confirmed:

A case that meets the clinical description as described above with any of the following:

- Brucella identified by culture from any clinical specimen or
- At least a four-fold increase of Brucella antibody titer between acute and convalescent sera separated by at least 2 weeks

Critical Reporting Elements

Document relevant travel and deployment history occurring within the incubation period.

Document the source of infection if known.

Document the circumstances under which the case patient was exposed including duty exposure, occupational activities, environmental exposures, or other high risk activities.

Comments

A positive Brucella slide agglutination test is the same thing as MAT; it therefore meets the probable case definition and should be reported.



How to Perform Case Finding?



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- When identifying cases, you should use as many sources as you can:
 - Health care facilities
 - Physicians' offices, clinics, hospitals, and laboratories
 - Reports of disease to Public Health Services or PM Departments
 - Call or visit locations
 - Local public health resources such as the health department
 - Tech tools
 - (AHLTA/CHCS/ESSENCE/DRSi/DigitalReports)
 - Public Health officials
 - CDC Current Outbreak List (https://www.cdc.gov/outbreaks/index.html)



Case Finding in DRSi for Reportable Medical Events





- Laboratory reports are entered in the system and appear in this module
- On the first tab, select 'Review Case-Findings by Reporting Unit'

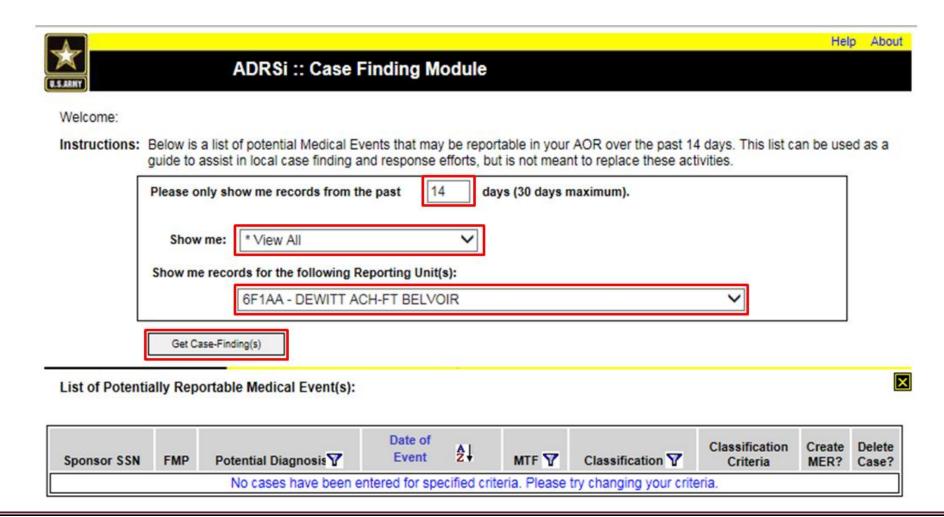




Using the CFM



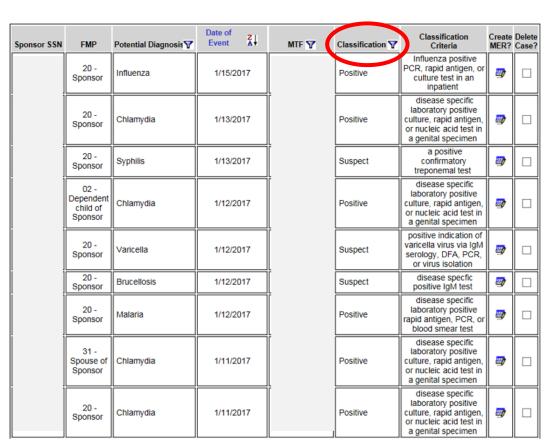
- Select the Time Period, Case Status and Reporting Unit
- Click 'Get Case-Findings'





Using the CFM





The CF classification is based on a behind-the-scenes algorithm. Cases are classified depending on the likelihood of meeting the case definitions in the Reportable Medical Event (RME) Guidelines.

Regardless of the classification status "positive" or "suspect" ALL cases that appear in the case finding module should be investigated to determine if they meet the case definition and need to be entered into the system.

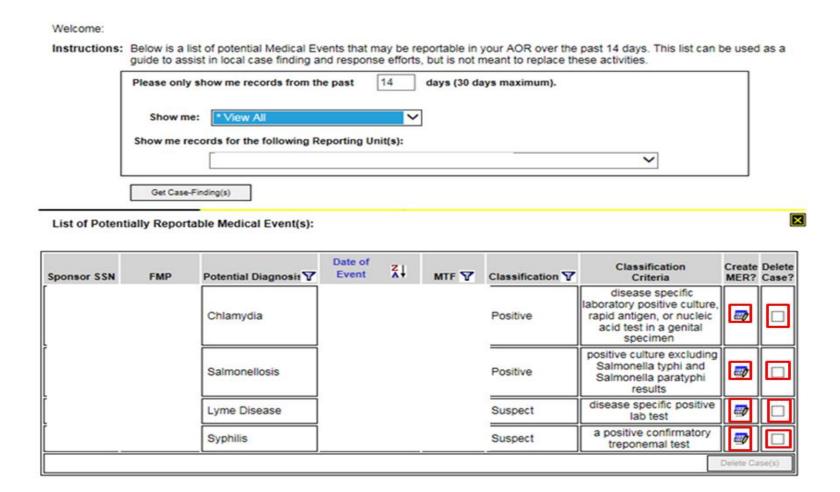
THESE ARE NOT RME CLASSIFICATIONS

A "suspect" lab record does not mean it is a suspect RME case.





 For sponsors, you can use the Sponsor SSN to find more information on the case. For non-sponsors, click "Create MER" to get demographic information on the case.





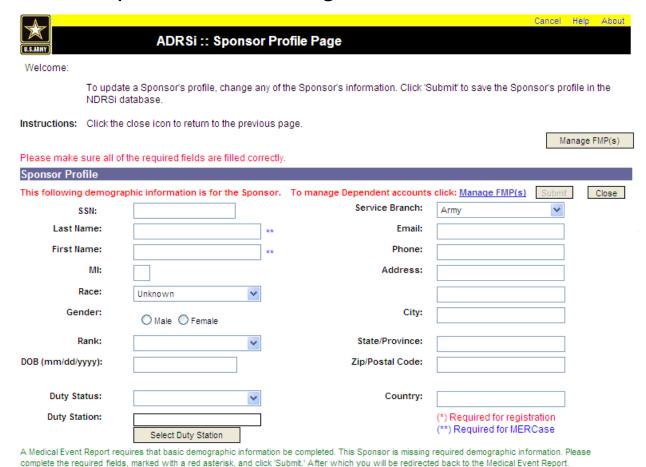


- Once you have information on the case, click "Create MER" and enter all information as usual. Classify the case according to the 2017 Armed Forces Reportable Medical Events Guidelines and Case Definitions.
- If you find that a case found in the case finding module does not meet the case definition, click "Create MER" and classify the case as "not a case". You can specify why this did not meet the case definition in the comments section.
 - If you delete a case from the case finding module, it will affect your MTFs performance metric. Entering the case as "not a case" as opposed to deleting it ensures that you are meeting the performance metric and responding to 100% of all cases found in the case finding module.





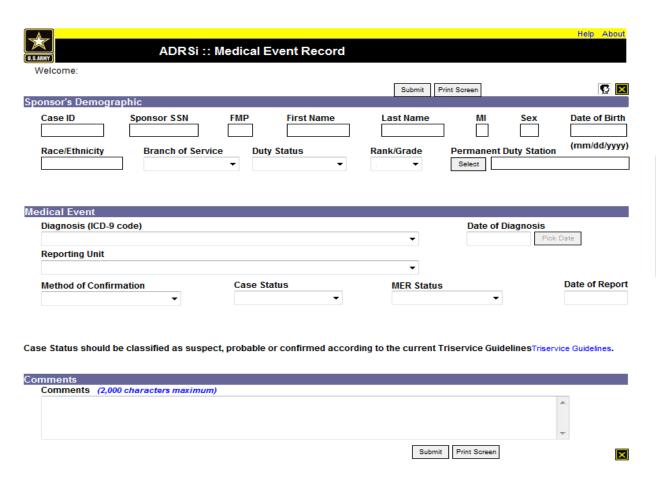
- If prompted, you may need to register the sponsor prior to entering the case if an existing profile does not exist in DRSi.
- Complete the Sponsor Profile Page, and click 'Submit'







- Once all information is entered, click 'Submit'
- The message "Medical Event successfully saved" will appear.





Method of Confirmation Case Classification Status MER Status Date of Report Serology Confirmed Final 7/19/2017 Case Classification Status should be classified as suspect, probable or confirmed according to the current Armed Forces Reportable Medical Events Guidelines Armed Forces Reportable Medical Events Guidelines. Clear Section Responses Laboratory Tests Zika virus IgM antibody O Positive O Pending O Negative Zika virus identified by culture ● Positive ○ Pending ○ Negative Zika virus antigen O Positive O Pending O Negative Zika virus nucleic acid (RNA) O Positive O Pending O Negative Zika virus PRNT titer O Positive O Pending O Negative Other labs not listed **Event Related Questions** Please specify the type of disease. Zika Virus Infection, Non-Congenital > Was this exposure duty related? ○ Yes, non-deployment related ○ Yes, Deployment related ○ No Did this case travel to or reside in an ● Yes ○ No area with known Zika virus transmission? Brazil - BR If pertinent travel or residence, please select the countries of travel or British Indian Ocean Territory - IO residence. (use ctrl-click to click all British Virgin Islands - VI Brunei - BX that apply) Did this case have sexual contact with O Yes
No a confirmed or probable Zika virus case? Did this case have sexual contact with ○Yes

No a person with recent travel to an area with known Zika virus transmission? Did this case receive blood or blood ○ Yes ● No products within 30 days of symptom onset? Did this case receive an organ or ○ Yes ● No tissue transplant within 30 days of symptom onset? Was this case associated in time and ○ Yes ● No place with a confirmed or probable Zika virus case? Did this case have likely vector Yes \(\cap \) No exposure in an area with potential local transmission? Comments Comments (2,000 characters maximum) In Brazil from April 2017 - June 2017. Symptoms include fever and conjunctivitis for one week.



Case Finding Status





- Additionally you can see the status of all Case Finding records from your facility.
- To do this, click on 'Summary Reports' of the Summary Reports tab.



Welcome:

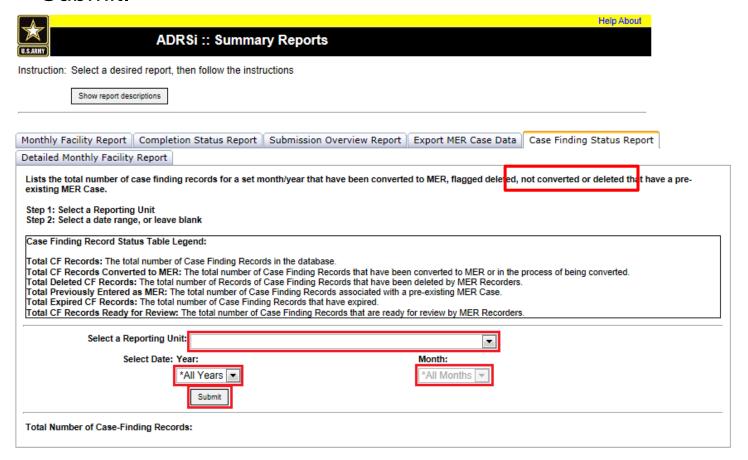




Case Finding Status



- Select the Case Finding Status report, and select the Reporting Unit you wish to view data for.
 - Next, select the year and month you wish to view, and click 'Submit.'





Case Finding Status





- The number of records, how many have been turned in to a MER, number deleted, number already in DRSi, number expired and total number ready for review will generate.
 - For an excel output of this screen, click the green x.

Total Number of Case-Finding Records:



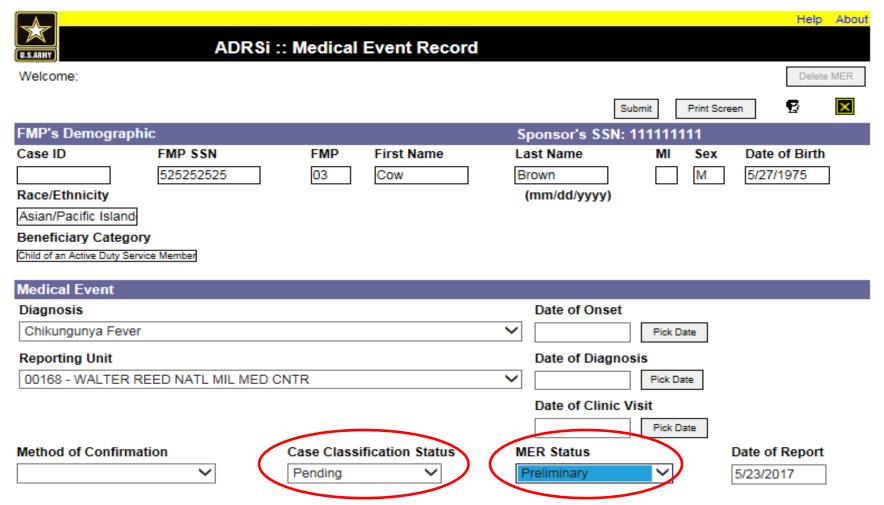
Reporting Unit	Facility Name	Year	Month	Disease Name	Public Health Classification	Classification Criteria	Total CF Records	Total CF Records Converted to MER	Total Deleted CF Records	Total Previously Entered as MER	Total Expired CF Records	Total CF Records Ready for Review
		2012	April	Malaria	Suspect	any lab result found to be negative or indeterminate						
		2012	April	Malaria	Suspect	any lab result found to be negative or indeterminate						
		2012	April	Lyme Disease	Suspect	Any positive antibody or PCR test without a Western Blot record or at least one positive Western Blot band						
		2012	April	Hepatitis A	Suspect	Positive or equivocal Hepatitis A IgM test						
		2012	April	Chlamydia	Positive	Positive lab test in a genital specimen						
		2012	April	Malaria	Suspect	any lab result found to be negative or indeterminate						

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What if information is pending?





Case Classification Status should be classified as suspect, probable or confirmed according to the current Armed Forces Reportable Medical Events Guidelines Armed Forces Reportable Medical Events Guidelines.

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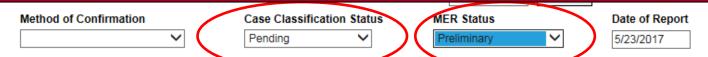
What if information is pending?







RMEs should be reported at the earliest case classification required and updated regularly as more clinical and/or information becomes available



Case Classification Status should be classified as suspect, probable or confirmed according to the current Armed Forces Reportable Medical Events Guidelines Armed Forces Reportable Medical Events Guidelines.





Other tools available for case finding

CHCS Ad Hoc/Spool reports

- "Case Finding in DRSi"
 - January 2017 epi-tech training

Using ESSENCE

- "ESSENCE version 5 Demo"
 - May 2018 epi-tech training
- "Making the most of ESSENCE"
 - Oct 2016 epi-tech training

Link to training videos and slides:

https://phc.amedd.army.mil/topics/healthsurv/de/Pages/Epi-TechTraining.aspx

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Case Finding with MHS Genesis



MHS Genesis



Differences with MHS Genesis:

- Labs will not feed into DRSi
- No data feed into ESSENCE
- No quick reporting tools or public health surveillance system currently built into the system
- Historic medical records are not available on MHS Genesis; will need to still use AHLTA and other sources to complete reports

Ultimately, all tools currently used for case finding will be interrupted and may be unavailable.



MHS Genesis



Preparing for MHS Genesis:

- Establish good communication with lab officers, preventive medicine, and nursing departments
 - Navy: Contact NEPMU5 to get guidance and mentorship. NEPMU5 can help prepare Navy PM departments with their surveillance activities when MHS Genesis gets adopted at that MTF
- Review Service requirements to report medical events
 - Can be found in 2017 Armed Forces Reportable Medical Events Guidelines and Case Definitions, page 6
- Current tools used for case finding may be interrupted or unavailable
- Additional time and resources may be needed to fulfill reporting requirements



Closing



- Case finding should be conducted with all communicable diseases to ensure the complete and accurate capture of all cases
- Case finding can be done as part of active surveillance or it can be done to improve completeness of passive surveillance systems
- Using the case finding module within DRSi can help MTFs improve both completeness of reportable medical event reporting and timeliness of reporting
- Improved case finding allows preventive medicine/public health personnel to determine the true size and geographic extent of a disease



Questions/Service POCs



Army: APHC – Disease Epidemiology Division

Aberdeen Proving Ground, MD

COMM: (410) 417-2377 DSN: 584-7605

Email: <u>usarmy.apg.medcom-aphc.mbx.disease-epidemiologyprogram13@mail.mil</u>

Navy: NMCPHC Preventive Medicine Programs and Policy Support Department

COMM: (757) 953-0700; DSN: (312) 377-0700

Email: <u>usn.hampton-roads.navmcpubhlthcenpors.list.nmcphc-threatassess@mail.mil</u>

Contact your cognizant NEPMU:

NEPMU2: COMM: (757) 950-6600; DSN: (312) 377-6600

Email: <u>usn.hampton-roads.navhospporsva.list.nepmu2norfolk-threatassess@mail.mil</u>

NEPMU5: COMM: (619) 556-7070; DSN (312) 526-7070

Email: <u>usn.san-diego.navenpvntmedufive.list.nepmu5-health-surveillance@mail.mil</u>

NEPMU6: COMM: (808) 471-0237; DSN: (315) 471-0237 Email: usn.jbphh.navenpvntmedusixhi.list.nepmu6@mail.mil

NEPMU7: COMM (int): 011-34-956-82-2230 (local): 727-2230; DSN: 94-314-727-2230

Email: NEPMU7@eu.navy.mil

Air Force: Contact your MAJCOM PH or USAFSAM/PHR

USAFSAM / PHR / Epidemiology Consult Service

Wright-Patterson AFB, Ohio

Comm: (937) 938-3207 DSN: 798-3207

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